

WHAT IS CLAIMED IS:

- 1 1. A valved plug to be fitted on a mouth piece at an inlet
2 opening of an instrument entrance passage leading to a biopsy
3 channel of an endoscopic insertion tube, said plug being formed of a
4 resilient material in its entirety and having, at opposite ends of a
5 foldable connecting strip, a generally tubular main body portion
6 internally formed with a constricted passage of a smaller diameter as
7 compared with said inlet opening of said instrument entrance passage
8 at an intermediate portion between outer and inner ends thereof, and
9 a nesting piece adapted to be detachably and tightly coupled with said
10 main body portion and having a normally closed slit valve in axial
11 alignment with said constricted passage in said main body portion to
12 permit insertion of an instrument therethrough, characterized in that:
13 said main body portion is provided with an interlocking inward
14 projection of a predetermined thickness at an outer end to be coupled
15 with said nesting piece; and
16 said nesting piece is composed of a circular body portion having
17 a slit cut across a center region thereof, and an annular interlocking
18 flange formed integrally with and on top of said circular body portion

19 around said slit and spread radially outward to hang over
20 circumferential edges of said circular body portion;
21 said interlocking projection on said main body portion of said
22 plug being adapted to be brought into engagement tightly with an
23 interlocking groove formed between said flange portion and said
24 circular body portion of said nesting piece and gripped in said
25 interlocking groove in a compressed state when said nesting piece is
26 coupled with said main body portion.

1 2. A valved plug as defined in claim 1, wherein said interlocking
2 projection is an annular ledge projecting radially inward from an outer
3 end of said main body portion on the outer side of said constricted
4 passage, and said interlocking groove on the side of said nesting piece
5 is an annular groove formed around circumference of said circular
6 body portion in a width smaller than thickness of said interlocking
7 portion and in a diameter larger than inside diameter of said
8 interlocking projection of said main body portion.

1 3. A valved plug as defined in claim 2, wherein said annular

2 ledge is so dimensioned as to have an inside diameter smaller than
3 diameter of said annular interlocking groove of said nesting piece.

1 4. A valved plug as defined in claim 2, wherein an annular recess
2 is formed between said interlocking projection and said constricted
3 passage of said main body portion, said annular recess being so
4 dimension as to have an inside diameter smaller than outside diameter
5 of said interlocking groove on the side of said nesting piece.

1 5. A valved plug as defined in claim 1, wherein said interlocking
2 projection of said main body portion is tightly engaged with said
3 interlocking groove on the side of said nesting piece through tapered
4 or inclined surfaces and retained in an interlocked state more tightly
5 by wedge-like actions of said tapered surfaces when an axial force is
6 exerted thereto from inside of said biopsy channel.

1 6. A valved plug as defined in claim 1, wherein said circular body
2 portion of said nesting piece is formed in a hemispherical cup-like
3 shape, and said slit is formed across a bottom portion of said

4 hemispherical body portion.

1 7. A valved plug as defined in claim 1, wherein said main body is
2 internally provided with a hollow cavity under said constricted passage,
3 and said slit is formed radially within a range of said hollow cavity.

1 8. A valved plug as defined in claim 7, wherein said slit is formed
2 in an area inward of said interlocking projection on the side of said
3 main body portion of said plug.

1 9. A valved plug as defined 2, wherein a ridge is formed on one of
2 engaging surfaces of said main body portion and nesting piece, said
3 ridge being adapted to be deformed into a flattened shape by
4 compression as said nesting piece is coupled with said main body
5 portion of said plug.